CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD
WATERSHED MANAGEMENT INITIATIVE PLAN CHAPTER

EXECUTIVE SUMMARY

Overview

The water resource protection efforts of the State Water Resources Control Board and the Regional Water Quality Control Boards are guided by a five-year Strategic Plan. A key component of the Strategic Plan is a watershed management approach for water quality protection.

To protect water quality within a watershed context, a mix of point and nonpoint source discharges, ground and surface water interactions, and water quality/water quantity must be considered. These complex relationships present considerable challenges to water resource protection programs. The State and Regional Boards are responding to these challenges with the Watershed Management Initiative (WMI). The WMI is designed to integrate various surface and groundwater regulatory programs while promoting cooperative, collaborative efforts within a watershed. It is also designed to focus limited resources on key issues.

Past State and Regional Board programs tended to be directed at site-specific problems. This approach was reasonably effective for controlling pollution from point sources. However, with diffuse nonpoint sources of pollutants, a new regulatory approach was needed. The WMI uses a strategy to draw solutions from all interested parties within a watershed, and to more effectively coordinate and implement measures to control both point and nonpoint sources.

For initial implementation of the WMI, each Regional Board identified the watersheds in their Region, prioritized the water quality issues, and developed watershed management strategies. These strategies and the State Board's overall coordinating approach to the WMI are contained in the Integrated Plan for Implementation of the WMI. It should be recognized, however, that while the Boards are working to organize work efforts on a watershed basis, work predominately occurs on a programmatic basis.

Watershed Description

The Central Valley stretches from the Oregon border to the northern tip of Los Angeles County and includes all or part of 38 of the State's 58 counties. Three major watersheds have been delineated within this region, namely the Sacramento River Basin, the San Joaquin River Basin and the Tulare Lake Basin. The three basins cover about 40% of the total area of the State and approximately 75% of the irrigated acreage. Surface water supplies tributary to or imported for use within the Central Valley, particularly the San Joaquin River and Tulare Lake basins, are inadequate to support the present level of agriculture and other development; therefore, groundwater resources within the valley are being mined to provide additional water to supply demands.

The Sacramento and San Joaquin River Basins are bound by the crests of the Sierra Nevada on the east and the Coast Range and Klamath mountains on the west. They extend over some 400 miles. The Sacramento and San Joaquin River Basins cover about one fourth of the total area of the State and contain over 43 percent of the State's irrigable land. Surface water from these two basins meet and form the Delta, which ultimately drains to San Francisco Bay. Major groundwater resources underlie both river valley floors.

The Sacramento River Basin covers 27,210 square miles. The principal streams in the basin are the Sacramento River and its larger tributaries: the Pit, Feather, Yuba, Bear and American Rivers to the east; and Cottonwood, Stony, Cache and Putah Creeks to the west. Major reservoirs include Shasta, Oroville and Folsom.

The San Joaquin River Basin covers 15,880 square miles. The principal streams in the basin are the San Joaquin River and its larger tributaries: the Cosumnes, Mokelumne, Calaveras, Stanislaus, Tuolumne, Merced, Chowchilla, and Fresno Rivers. Major reservoirs include Pardee, New Hogan, Millerton, McClure, Don Pedro, and New Melones.

The Tulare Lake Basin comprises the drainage area of the San Joaquin Valley south of the San Joaquin River and encompasses approximately 17,650 square miles. The valley floor makes up slightly less than one-half of the total basin land area. The Kings, Kaweah, Tule, and Kern Rivers, which drain the west face of the Sierra Nevada Mountains, provide the bulk of the surface water supply native to the basin. Major reservoirs are Pine Flat, Kaweah, Success and Isabella. Imported surface water enters the Basin through the San Luis Canal/California Aqueduct System, Friant-Kern Canal, and the Delta-Mendota Canal.

Strategy to Implement the WMI

The Central Valley Regional Water Quality Control Board's (Regional Board's) general watershed management approach divides the Central Valley Region into three management areas or "watersheds". These watershed management areas correspond with the three basins (Sacramento River Basin, San Joaquin River Basin, and Tulare Lake Basin) that are described above or in the Region's two Basin Plans. These watersheds can be broken down into smaller watersheds or sub-watersheds in order to work on specific problems or to focus on a specific area. The boundaries of sub-watersheds are delineated as needed.

The Regional Board is attempting to assess water quality problems in each watershed, develop and implement strategies to correct problems, and evaluate success. Inherent in the process is the need to prioritize work to maximize the use of resources. While this general process will be followed in each watershed, it is important to recognize that funding is limited and not all priorities can be set on a geographic basis.

State of the Watershed Reports

State of the Watershed Reports have been prepared for the three watersheds and several sub-watersheds. These Reports present the current known water quality concerns in the watersheds and describe: (1) priorities within the watershed based on the known water quality problems; (2) current efforts to address the problems; (3) recommendations for future actions (including monitoring to track progress); (4) time schedules for high priority activities; and (5) preliminary budget allocations. These Reports provide the framework for discussions with stakeholders.

Staff activity in the watersheds and sub-watersheds will vary. Where possible, staff builds upon existing local programs. In the absence of local efforts, comprehensive programs may be established based upon priority issues and available funding. In some instances, significant, locally driven activity in a sub-watershed is taking place with Regional Board staff playing a minor, but important, role. In other instances, comprehensive water quality assessments are well underway and staff is implementing strategies to remedy existing problems. Staff intends to build on these activities and to do extensive outreach in each watershed to make sure that problems are adequately assessed and addressed. While voluntary efforts are encouraged, regulatory encouragement, regulation through waste discharge requirements, or enforcement activities may be required to address identified problems.

Organizational Structure and Programs

The Central Valley Regional Board has broad authority and primary responsibility (shared with the State Water Resources Control Board and the eight other Regional Boards) under the Porter-Cologne Water Quality Act (Porter-Cologne) to protect water quality. Porter-Cologne establishes a comprehensive program for water quality regulation to protect the beneficial uses of water. It applies to surface waters, wetlands and groundwater and all types of waste discharge including point and nonpoint sources. Porter-Cologne requires the adoption of a Water Quality Control Plan (Basin Plan) that contains the guiding policies of water pollution management within the Region. The Regional Board implements the Basin Plan by regulating discharges of waste primarily through issuance of waste discharge requirements (WDRs). The Porter-Cologne also incorporates many provisions of the federal Clean Water Act, such as the delegation of the National Pollutant Discharge Elimination System (NPDES) permitting program.

The Central Valley Regional Board has offices in Sacramento (Headquarters Office), Fresno and Redding. The organizational structure in the three offices is largely based on the programs that are implemented. The State Water Board budget process distributes resources by program and expenditures and work commitments are set forth in workplans. It is the Regional Board's responsibility to integrate these programs on a watershed level and make distributions between the three offices. Following is a listing of the major Central Valley Regional Board programs along with current funding levels for each.

Resources

Resources available for personnel services and contracts vary from year to year, and for fiscal year 02-03, are projected to be approximately 15% less than fiscal year 01-02. The following is the Regional Board personnel budget, as delineated in the Budget and Administration System on 1 July 2001:

Program	**Personnel Services PY Allocation**
Watershed Management: Update of the WMI Chapter and coordination of WMI activities	1.2 (0.5%)
NPDES: Regulation of surface water dischargers, including permitting, compliance monitoring, complaint investigations and enforcement.	31.6 (12.8%)
Chapter 15: Regulation of landfills, aerial pesticide applicators, industrial surface impoundments, and land treatment facilities, including permitting, compliance monitoring, complaint investigations and enforcement.	31.4 (12.8%)
Non Chapter 15: Regulation of land dischargers not included under Chapter 15, including permitting, compliance monitoring, complaint investigations and enforcement.	38.2 (15.5%)
Stormwater: Regulation of stormwater discharges from larger municipalities, and industrial and construction activities. Includes permitting, compliance monitoring, complaint investigations and enforcement.	11.6 (4.7%)
WQ Certification: Participation in the State Water Quality Certification process for hydrologic modification projects.	1.8 (0.7%)
Regulatory Enforcement: Coordination, preparation and follow-up of formal enforcement activities for regulated dischargers.	3.5 (1.4%)
Dairies: Regulation of confined animal operations, including permitting, compliance monitoring, complaint investigations and all enforcement.	7.1 (2.9%)
Forest Activities: Review and permitting of timber harvests and other forest management activities.	2.1 (0.9%)
UST: Oversight of investigations into groundwater pollution, corrective actions, and enforcement that may be needed as a result of leaking underground storage tanks.	27.9 (11.3%)
SLIC: Oversight of investigations into groundwater pollution, corrective actions, and enforcement that may be needed as a result of unauthorized discharges, including cleanup activities at Department of Energy and Department of Defense sites.	21.4 (8.7%)
TMDL: Development and implementation of load allocations for impaired water bodies (i.e. Clean Water Act 303(d) listed water bodies).	13.7 (5.6%)

Program	Personnel Services PY Allocation
Non Point Source: Review of non-regulated activities including working with stakeholders to identify water quality problems and develop and implement solutions. Includes subsurface agricultural drainage activities.	16.8 (6.8%)
WQ Planning: Basin plan maintenance including identification of beneficial uses and developing and updating criteria, objectives, policies, and plans for waters within the Region.	3.7 (1.5%)
Monitoring & Assessment: Baseline/trend monitoring activities.	2.3 (0.9%)
Cal FED: Activities related to the CalFed program.	4.8 (2.0%)
Sacramento River Watershed Program: Coordination and other activities to assist the Sacramento River Watershed Program.	2.3 (0.9%)
Other	24.6 (10.0%)

Funding sources are usually designated for specific activities; hence, little discretion is available in distributing the funds. Moreover, some funding sources (e.g., nonpoint source and watershed) are grants that are for a limited time period. In instances where resources become available that do not have a designated use, staff consults regional priorities to determine the appropriate use of the funds. Priorities are set taking into consideration (1) legislative mandates, (2) water quality assessments and water body lists prepared in fulfillment of Federal Clean Water Act reporting requirements, (3) triennial Basin Plan reviews, (4) previous watershed management activities, and (5) dedicated funding for the issue.

Contract funds are not part of the regional staffing budget, but are awarded to outside entities. The funds are usually designated to assist in solving a water quality problem. For example, funds available through section 319 of the Clean Water Act are made available each year on a competitive basis for projects to reduce, eliminate, or prevent water pollution and to enhance water quality.

Key Water Quality Issues

For the past 25 years, our resources and efforts focused on controlling major ground and surface water quality problems associated with specific point source discharges. Major regulatory programs were developed to control discharges to surface waters from wastewater treatment plants, industries, landfills and other specific sources. State and federal grant programs supported construction of wastewater treatment facilities. Other programs were developed to address thousands of ground water quality problems resulting from prior discharges from landfills, wastewater land disposal units, leaking underground and above ground tanks, military facilities, and from numerous other discrete sources. While there are not enough resources available to address all the problems from point sources, most significant water quality problems associated with them, with a few notable exceptions, are under control and should remain so as long as baseline funding is maintained.

Discharges from nonpoint sources such as agriculture, silviculture, urban runoff, past mining

activities, dairies, and individual wastewater disposal systems, now cause the most significant and widespread surface and ground water quality problems. Prior to 1997, there were very few resources available to work on nonpoint source issues. Recently, there have been resource augmentations to begin a program to control nonpoint sources of pollution. However, work is just getting started in most areas and it will be a long and costly process before nonpoint source problems are adequately addressed or adequately funded.

Following are the most significant identified water quality issues in Region 5. They are equally important and are presented in no particular order. Because of lack of monitoring and assessment resources, many more problems remain unidentified. More information is presented in the State of the Watershed Reports on past, current, and proposed future actions to address the problems.

Agricultural Surface Water Discharges

Some of the most significant surface water quality problems in the region results from nonpoint source discharges from agricultural lands. In the San Joaquin River and Sacramento River watersheds and Delta sub-watershed, there are widespread impairments resulting from elevated pesticide concentrations. Salt, selenium and nutrients are major problems in the San Joaquin River and Delta. Past efforts have focused on documenting the water quality problems. Present and future actions need to focus on developing a framework for controlling these discharges. The expiration of the current waiver policy in January 2003 greatly accelerates the timeframe for development of a regulatory framework. These efforts are only partly supported by existing resources especially with regard to addressing waiver policy issues.

Storm Water Discharges

Storm water discharges have traditionally been regulated as nonpoint sources and very limited resources were devoted to developing a program to address this issue. Storm water was recently included in the NPDES program and the larger discharges have been permitted for a few years. Storm water discharges can be high in many pollutants, including pesticides, pathogens, sediments and metals. Recent budget augmentations included specific funding for additional storm water staff. According to the Urban Runoff Taskforce estimates, the Region would need about 30 more PYs to fully implement the program.

Nitrates and Salt in Ground Water

Ground water in the San Joaquin Valley is a primary water supply in many instances but it is impaired or threatened because of elevated levels of nitrates and salts that are derived principally from irrigated agriculture, dairies, discharges of wastewater to land, and, to a lesser extent, from septic tanks. In the Sacramento Valley and foothills, discharges from septic tanks are a significant water quality concern. Conditions are expected to worsen unless significant efforts are initiated to reverse the trends. Some work is being done to assess the impacts from discharges of wastewater to land. However, monitoring is needed to identify sources and contributions. There currently are no resources available to address problems associated with agricultural sources. Very limited resources have been diverted from regulatory activities to address septic tanks but planning and nonpoint source resources are needed to develop a policy.

Mercury from Past Mining Activity

Most of the low elevation surface water streams and lakes in the Sacramento River and San Joaquin River watersheds are impaired because of elevated levels of mercury in fish tissue. The predominate source of the mercury is past mining activities in the Coast and Sierra Nevada Range. Determining the sources, mechanisms of uptake by organisms and developing appropriate control programs is a high priority of our TMDL efforts. Control options are currently limited. Resources are needed for monitoring to identify sources in tributaries and studies are needed to determine fate, transport and bioaccumulation.

Beneficial Uses and Water Quality Objectives

The Basin Plan defines the beneficial uses that are to be protected in point source and nonpoint source activities. If a water body's defined uses are incorrect, the environment may not be adequately protected, the Board's activities may be misdirected, or Board and discharger resources may be spent with little or no water quality benefit. Little or no data is available on water quality and other stream characteristics for most of the water bodies in the Region; much more monitoring and studies are needed.

The beneficial uses and associated water quality objectives of ephemeral, and agriculture and domestic wastewater dominated water bodies need to be reviewed both to prevent unnecessarily stringent effluent limits and to protect the unique ecology of ephemeral streams.

Water utilities are concerned that the current municipal use protection standards are not protective in light of the 1996 federal Safe Drinking Water Act, and have funded limited efforts to begin review of this issue.

Sedimentation and Erosion

Erosion contributes to downstream water quality problems, including degraded aquatic and riparian habitat, siltation, increased temperature and changes in stream morphology. In the Central Valley, erosion is occurring from the headwaters down to the valley floor. Although naturally occurring, erosion can be accelerated by timber harvest activities, land use conversion, rural development, and grazing. Thousands of miles of streams are potentially impacted and the lack of resources has prevented a systematic evaluation and implementation of our oversight responsibilities.

Some of the problems are the result of past management practices and can not be addressed solely through regulation or best management practice implementation. Frequently, improvements in water quality, aquatic habitat and channel condition are inseparably linked. The Regional Board will direct technical assistance and grant funding to locally directed watershed programs attempting to address these issues through restoration projects and education/outreach. Forest Activities and Non Point Source resources are used to try to address these issues.